

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims, including those in the First Preliminary Amendment, in the application:

Listing of Claims:

Claim 1 (currently amended): ~~A copper alloy sputtering target most suitable for formation of~~ forming an interconnection material or seed layer of a semiconductor device, particularly for ~~formation of a seed layer, wherein said~~ comprising: a copper alloy sputtering target contains containing 0.4 to 5 wt% of Sn and having a sputtering face, the structure of the said target having a structure that does not substantially contain any precipitates and ~~the a~~ resistivity of ~~the target material~~ is $2.3 \mu \Omega$ cm or more, said target having a ratio $I(111)/I(200)$ of an X-ray diffraction peak intensity $I(111)$ of a (111) face and an X-ray diffraction peak intensity $I(200)$ of a (200) face of 2.2 or less in said sputtering face, and variation in $I(111)/I(200)$ in said sputtering face is respectively within $\pm 30\%$.

Claim 2 (original): A copper alloy sputtering target according to claim 1, wherein said target contains 0.5 to 1 wt% of Sn.

Claim 3 (currently amended): ~~A copper alloy sputtering target most suitable for formation of~~ forming an interconnection material or seed layer of a semiconductor device, particularly for ~~formation of a seed layer, wherein said~~ comprising: a copper alloy sputtering target contains containing 0.2 to 5 wt% of Al and having a sputtering face, the structure of the said target having a structure that does not substantially contain any precipitates and ~~the a~~ resistivity of ~~the target material~~ is $2.2 \mu \Omega$ cm or more, said target having a ratio $I(111)/I(200)$

of an X-ray diffraction peak intensity I(111) of a (111) face and an X-ray diffraction peak intensity I(200) of a (200) face of 2.2 or more in said sputtering face, and variation in I(111)/I(200) in said sputtering face is respectively within $\pm 30\%$.

Claim 4 (original): A copper alloy sputtering target according to claim 3, wherein said target contains 0.5 to 1 wt% of Al.

Claim 5 (currently amended): ~~A copper alloy sputtering target most suitable for formation of~~ forming an interconnection material or seed layer of a semiconductor device, ~~particularly for formation of a seed layer, wherein said~~ comprising: a copper alloy sputtering target contains containing 0.3 to 5 wt% of Ti and having a sputtering face, the structure of the said target having a structure that does not substantially contain any precipitates and ~~the a~~ resistivity of ~~the target material is~~ $9 \mu \Omega \text{ cm}$ or more, said target having a ratio I(111)/I(200) of an X-ray diffraction peak intensity I(111) of a (111) face and an X-ray diffraction peak intensity I(200) of a (200) face of 2.2 or less in said sputtering face, and variation in I(111)/I(200) in said sputtering face is respectively within $\pm 30\%$.

Claim 6 (original): A copper alloy sputtering target according to claim 5, wherein said target contains 0.5 to 1 wt% of Ti.

Claim 7 (currently amended): ~~A copper alloy sputtering target most suitable for formation of~~ forming an interconnection material or seed layer of a semiconductor device, ~~particularly for formation of a seed layer, wherein said~~ comprising: a copper alloy sputtering target contains containing a total of 0.2 to 5 wt% of at least one alloying component selected

from Sn, Al and Ti and having a sputtering face, the structure of the said target having a structure that does not substantially contain any precipitates and the a resistivity of the target material is greater than the a resistivity of the a copper alloy having the same composition in a thermal equilibrium state, wherein, when the copper alloy of said target contains Al, a ratio I(111)/I(200) of an X-ray diffraction peak intensity I(111) of a (111) face and an X-ray diffraction peak intensity I(200) of a (200) face is 2.2 or more in said sputtering face, and, when the copper alloy of said target contains at least one of Sn and Ti, said ratio I(111)/I(200) of said X-ray diffraction peak intensity I(111) of said (111) face and said X-ray diffraction peak intensity I(200) of said (200) face is 2.2 or less in said sputtering face, and variation in I(111)/I(200) in said sputtering face is respectively within $\pm 30\%$.

Claim 8 (original): A copper alloy sputtering target according to claim 7, wherein said target contains a total of 0.5 to 1 wt% of at least one component selected from Sn, Al and Ti.

Claims 9-15 (canceled).

Claim 16 (new): A copper alloy sputtering target according to claim 7, wherein an increase in resistivity due to said alloying component in said target is 1.2 times or more than that of said copper alloy in said thermal equilibrium state.

Claim 17 (new): A copper alloy sputtering target according to claim 7, wherein said target has a crystal grain size of $50\mu\text{m}$ or less, and variation in average grain size by location is within $\pm 20\%$.

Claim 18 (new): A copper alloy sputtering target according to claim 7, wherein variation in said alloying component of said target is within 0.2%.

Claim 19 (new): A copper alloy sputtering target according to claim 7, wherein each of Na and K contained within said target is 0.1 ppm or less; each of Fe, Ni, Cr and Ca contained within said target is 1 ppm or less; each of U and Th contained within said target is 1 ppb or less, oxygen contained in said target is 5 ppm or less, hydrogen contained in said target is 2 ppm or less; and unavoidable impurities excluding alloying elements are 10 ppm or less.

Claim 20 (new): A copper alloy sputtering target according to claim 1, wherein each of Na and K contained within said target is 0.5 ppm or less; each of Fe, Ni, Cr and Ca contained within said target is 2 ppm or less; each of U and Th contained within said target is 1 ppb or less, oxygen contained in said target is 5 ppm or less, hydrogen contained in said target is 2 ppm or less; and unavoidable impurities excluding alloying elements are 50 ppm or less.

Claim 21 (new): A copper alloy sputtering target according to claim 1, wherein said target has a crystal grain size of $50\mu\text{m}$ or less, and variation in average grain size by location is within $\pm 20\%$.

Claim 22 (new): A copper alloy sputtering target according to claims 1, wherein variation in the alloying element of said target is within 0.2%.

Claim 23 (new): A copper alloy sputtering target according to claim 3, wherein each of Na and K contained within said target is 0.5 ppm or less; each of Fe, Ni, Cr and Ca contained within said target is 2 ppm or less; each of U and Th contained within said target is 1 ppb or less, oxygen contained in said target is 5 ppm or less, hydrogen contained in said target is 2 ppm or less; and unavoidable impurities excluding alloying elements are 50 ppm or less.

Claim 24 (new): A copper alloy sputtering target according to claim 3, wherein said target has a crystal grain size of $50\mu\text{m}$ or less, and variation in average grain size by location is within $\pm 20\%$.

Claim 25 (new): A copper alloy sputtering target according to claim 5, wherein each of Na and K contained within said target is 0.1 ppm or less; each of Fe, Ni, Cr and Ca contained within said target is 1 ppm or less; each of U and Th contained within said target is 1 ppb or less, oxygen contained in said target is 5 ppm or less, hydrogen contained in said target is 2 ppm or less; and unavoidable impurities excluding alloying elements are 10 ppm or less.

Claim 26 (new): A copper alloy sputtering target according to claim 5, wherein said target has a crystal grain size of $50\mu\text{m}$ or less, and variation in average grain size by location is within $\pm 20\%$.

Claim 27 (new): A method of manufacturing a copper alloy sputtering target, comprising the steps of:

obtaining a high purity copper alloy ingot by vacuum melting;

performing at least one of hot forging and hot rolling to said high purity copper alloy ingot;

thereafter, cold rolling said high purity copper alloy; and

thereafter sandwiching said high purity copper alloy with copper plates

underwater and performing forced cooling thereto during heat

treatment.